REMARKS/ARGUMENTS

These Remarks are responsive to the Office Action mailed December 23, 2005 ("Office Action"). Claims 1, 3-10, and 27 are pending in the application. Claims 1, 8, and 27 are amended. Support for the amended and newly claimed subject matter may be found throughout the specification and claims as originally filed. Applicant respectfully requests reconsideration of the rejection of the pending claims for the following reasons.

Anticipation -- 35 U.S.C. § 102

The Office Action rejects claims 1 and 6-8 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,512,491 ("Mehkeri").

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Manual of Patent Examining Procedure § 2131 (8th ed., rev. 2, May 2004) (quoting Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." M.P.E.P. § 2112 (quoting Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)). "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." Id. (citing In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993), which reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art).

Mehkeri discloses ultra-trace level analysis of water. Mehkeri discloses CELITE as a support "upon whose surfaces have been deposited, preferably, a thin layer of freshly-prepared aluminum hydroxide." Mehkeri also discloses that "[s]uitable supports include zeolites, kieselghur, fuller's or diatomaceous earth, alumina and silica gel." Mehkeri, col. 3, ll. 9-12. Mehkeri does not teach modification of the support other than coating it with a thin layer of freshly prepared metal ion hydroxide. Mehkeri, col. 7, ll. 19-32. The Office Action relies on

Mehkeri's teaching of alumina as a support and asserts that "the hydrated active hydroxyl groups in this alumina will contain surface Al-OH groups, as required by claims 1 and 6-8." Office Action, page 2.

Claim 1 requires, among other limitations, a step of "contacting the water with the surface of a surface hydrated alumina (Al_2O_3) medium, which contains a surface density of Al-OH groups sufficient to render the surface of the medium hydrophilic." Mehkeri teaches that the support can be made from alumina as well as other support materials. Mehkeri, col. 3, ll. 9-12. Alumina is not necessarily hydrophilic. See, e.g., Specification, page 18 (describing alumina that is not fully hydroxylated as having powder fines that floated demonstrating hydrophobilicity). Nothing in Mehkeri teaches or suggests that the alumina is made or should be made hydrophilic. Instead, Mehkeri discusses coating the support with a thin layer of metal hydroxide. Therefore, Mehkeri cannot expressly or inherently anticipate claim 1. Claims 6-8 are not anticipated by Mehkeri as they depend from and incorporate the limitations of claim 1. Accordingly, the rejection of claims 1 and 6-8 under 35 U.S.C. § 102 as anticipated by Mehkeri must be withdrawn.

The Office Action asserts that the claims do not preclude "a coating of aluminum hydroxide." However, the claims now require "contacting the water with the surface of a surface hydrated alumina (Al_2O_3) medium." Therefore, even assuming that the alumina support of Mehkeri meets the "hydrated alumina" and "hydrophilic" claim limitations (which Applicant disagrees that it does), there is no teaching or suggestion in Mehkeri to contact water with the surface of a surface hydrated alumina to remove microbiological contaminants as required by claim 1. Instead, in Mehkeri, water is contacted with the metal ion hydroxide layer to remove contaminants and not the support. Therefore, Mehkeri fails to anticipate claim 1. Claims 6-8 are not anticipated by Mehkeri as they depend from and incorporate the limitations of claim 1. Accordingly, the rejection of claims 1 and 6-8 under 35 U.S.C. § 102 as anticipated by Mehkeri must be withdrawn.

Obviousness -- 35 U.S.C. § 103

The Office Action rejects claims 3-5, 9 10, and 27 under 35 U.S.C. § 103 as being obvious over Mehkeri.

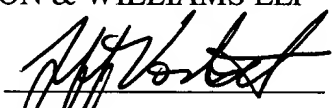
"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. § 2143.03.

Claims 3-5, 9, and 10 depend from and incorporate the limitations of claim 1, which is discussed in relation to Mehkeri above. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." M.P.E.P. § 2143.03 (citing In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). As discussed above, Mehkeri fails to teach or suggest all of the limitations of claim 1. Therefore, claims 3-5, 9, and 10, which incorporate the limitations of claim 1, are not obvious in view of Mehkeri since Mehkeri does not teach or suggest all of the limitations of these claims.

Claims 3-5 and 27 further require a surface hydrated alumina medium comprising "a surface density of Al-OH groups . . . at an average rate of greater than about 1 hydroxyl group per 10 nm^2 of surface area." The Office Action acknowledges that the support of Mehkeri contains Al-OH in "some unspecified surface density." Office Action, page 3. The Office Action then concludes that "it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ alumina having the recited surface density of Al-OH groups in the reference process, in order to ensure that enough active hydroxyl groups are present to adequately purify the water." Office Action, page 3. However, the Office Action completely overlooks Mehkeri's teaching of coating the support with a thin layer of freshly prepared metal oxide to provide more hydroxyl groups. Instead of increasing the amount of hydroxyl groups on the surface of the substrate as would be required to meet the claim limitations, Mehkeri coats the substrate with a thin layer of metal ion hydroxide to provide additional hydroxyl groups. Thus, Mehkeri does not suggest the claim limitation of a surface hydrated alumina medium comprising "a surface density of Al-OH groups . . . at an average rate of greater than about 1 hydroxyl group per 10 nm^2 of surface area." Accordingly, the rejection of claims 3-5 and 27 under 35 U.S.C. § 103 as being obvious in view of Mehkeri must be withdrawn.

Applicant submits that this response addresses all of the issues raised in the Office Action and places the pending claims in condition for allowance. Should any issues remain to be discussed in this application, the undersigned may be reached by telephone. In the event any variance exists between the amount authorized to be charged to the Deposit Account and the Patent Office charges for reconsideration of this application, please charge or credit any difference to the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,
HUNTON & WILLIAMS LLP

By: 
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